

ABSTRACT

A sub-atmospheric pressure desalinating still employs a closed top, opened bottom tank filled with seawater, having a height greater than the height of a column of seawater that can be supported by the pressure at the bottom tank so that a vacuum is formed at the top. A compressor draws vapor from the evacuated area, compresses it and passes it through a heat exchanger within the tank volume to condense the vapor in the tank to generate purified water. Replenishing water is drawn in through the bottom of the tank, passes through a heat exchanger, and is pumped through a heat exchanger coil surrounding the compressor, with the outlet feeding a spray head within the vacuum volume. The compressor and the pump for the intake flow are powered by a wind turbine or wave power.

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